

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 030254X521	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2003/012700	International filing date (day/month/year) 03 October 2003 (03.10.2003)	Priority date (day/month/year) 03 October 2002 (03.10.2002)
International Patent Classification (IPC) or national classification and IPC H04L 12/56, G06F 17/30		
Applicant IN4S INC.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☒ (sent to the applicant and to the International Bureau) a total of 9 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand 30 April 2004 (30.04.2004)	Date of completion of this report 27 August 2004 (27.08.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/012700

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ The international application as originally filed/furnished

☒ the description:

pages _____ 1-4, 9-14, 16-92 _____, as originally filed/furnished

pages* _____ 5-8, 15 _____ received by this Authority on _____ 13 August 2004 (13.08.2004)

pages* _____ received by this Authority on _____

☒ the claims:

pages _____ 2-20, 22-48, 50, 51 _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ 1, 21, 49, 52-54 _____ received by this Authority on _____ 13 August 2004 (13.08.2004)

pages* _____ received by this Authority on _____

☒ the drawings:

pages _____ 1-53 _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP03/12700

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-54	YES
	Claims		NO
Inventive step (IS)	Claims	1-54	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-54	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP, 10-257066, A (Mitsubishi Electric Corporation)
September 25, 1998 (09.25.98)
Abstract, Claim 1, Paragraphs 0020 to 0032, Figs. 1 to 3

Document 2: JP, 2002-16638, A (Mitsubishi Electric Corporation)
January 18, 2002 (01.18.02)
Figs. 2 and 7

Document 3: Kazuyuki KASHIMA, Keiichi SODA, Yoshihiro MORIKI, Tatsuki ICHIHASHI, Tetsuya ABE, "IP Routing Table no Hardware ni yoru Kosoku Kensaku Hoshiki," 1998 Nen The Institute of Electronics, Information and Communication Engineers, Tsushin Society Taikai, B-7-123, September 7, 1998 (09.07.98)

Document 4: JP, 8-212790, A (Kawasaki Steel Corporation)
August 20, 1996 (08.20.96)
Claim 1

- Claims 1-54

Document 1 describes that an IP address is divided into a plurality of partial addresses, a control table corresponding to each of the divided partial addresses is searched to check presence/absence of registered information corresponding to the partial addresses, and until the search and check end, search of a table corresponding to a subsequent address is repeated based on obtained checking results.

Document 2 describes that an IP address is divided into a plurality of partial addresses, a control table corresponding to each of the divided partial addresses is searched to check presence/absence of registered information corresponding to the partial addresses, and valid/invalid information is provided in the registered information.

Document 3 describes that when searching an IP routing table, search is performed using Patricia Trie having a two-branch tree structure branched by a bit value of a search key.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of Box V.2 :

Document 4 describes searching a protocol address of data by dividing the data to be searched into prescribed segment units and by performing search by an AND matching operation of the protocol addresses for the segment units.

None of documents 1-4 describes or suggests having a full checking step (full checking means) for selecting a partial object bit string of the current step from a bit string object to be searched and checking all values that a partial object bit string of the current step could obtain, a pattern loading step (pattern loading means), independent from this full checking step (full checking means) for loading a pattern table of the current step from memory to indicate the partially registered bit pattern of the current step, and a judging step (judging means) for indicating presence/absence of the partially registered bit pattern of the current step corresponding to the partial object bit string of the current step.